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**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

Application Number: 10/597,543

Filing Date: July 28, 2006

Appellant(s): HABETHA ET AL.

Brian S. Myers
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed December 20, 2011 appealing from the Office action mailed July 27, 2011.

(1) Real Party in Interest

A statement, identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

Claims 1, 3-5, 7, 9, 11, 12, 14, 15, 19, 27, 28 and 33 are rejected under 35 U.S.C. 102(e).

The rejection of claims 22, 35, and 37 under 35 U.S.C. 112, second paragraph has been withdrawn.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final contained in the brief is correct.

(5) Summary of Claimed Subject Matter

The summary of the claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

(7) Claims Appendix

The copy of the appealed claims contained in the appendix to the brief is correct.

(8) Evidence Relied Upon

6,665,311

Kondylis et al

12-2003

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1, 3-5, 7, 9, 11, 12, 14, 15, 19, 27, 28 and 33 are rejected under 35 U.S.C. 102(e) as being anticipated by **Kondylis et al 6,665,311 (hereinafter Kondylis)**.

Regarding **claim 1**, Kondylis discloses a method of decentralized medium access control in a communications network (TDMA-based distributed reservation protocol in a mobile ad hoc network, see col. 15, lines 26-28) including a plurality of

devices (neighboring nodes X and Y, see col. 17, lines 21-29 and 61-66), comprising the steps of: dividing time into a sequence of at least one superframe (frame 900, see fig. 9, col. 16, lines 60-63); and a first device of said plurality of devices (Node X, see col. 17, lines 29-33) transmitting in the superframe at a target beacon transmission time (TBTT) (Node X transmitting at the beginning of the reservation slots 902 in the frame 900, see figs. 9 and 10, col. 16, line 62 – col. 17, line 5) a beacon frame that includes a reservation for a planned transmission by a sender device (Node X, see col. 17, lines 21-29 and 61-66), during the superframe (node X transmitting in a reservation slot of a frame a reservation request, the reservation request indicating data slot in the frame to be reserved for the node X for transmission data in the data slots of a frame, see col. 17, lines 29-33 and lines 45-53).

Regarding **claim 3**, Kondylis further discloses the method of claim 1, further comprising grouping the beacon frame transmitted by each of the plurality of devices into the superframe as at least one beacon period (signaling period/subframe 902, see fig. 9, col. 16, lines 62-62) having a starting point at a beacon period start time (BPST) and followed by a data transmission phase (inherent, since the signal period/subframe of 902 comprises a plurality of reservation slots 906, which have beginning and end time in the frame 900, see fig. 9, col. 16, lines 62-64).

Regarding **claim 4**, Kondylis further discloses the method of claim 1, further comprising prior to a new or a change of an existing reservation of the sender device, the sender device negotiating with a receiver device of the transmission that is planned during the reservation (the transmitting node X, receiving a reservation confirmation

from the one-hop neighbors, so that it can broadcast packets to the nodes in the reserved slot, see col. 18, lines 38-46).

Regarding **claim 5** as applied to claim 4, Kondylis further discloses said negotiation comprising: an initiator device (Node X, see col. 17, lines 29-33) of the reservation transmitting a distributed reservation protocol (DRP)-Request message (node X transmitting in a reservation slot of a frame a reservation request, see col. 17, lines 29-33 and lines 45-53) comprising at least one reservation description selected from the group consisting of a starting time, and a duration signaled by means of BPST or TBTT offset, a reservation period (node X transmitting in a reservation slot of a frame a reservation request, the reservation request indicating data slot in the frame to reserved by the node X for transmission of data, see col. 17, lines 29-33 and lines 45-53), a bitmap indicating the reserved times, at least one time slot number, a priority, a channel/hopping indicator, and a code sequence; and in response to said DRP-Request, said negotiation further comprises at least one receiver device of the reservation (neighbors of the node X receiving the reservation request, see col. 17, lines 29-31) transmitting a distributed reservation protocol (DRP)-Response message that includes an indicator selected from the group consisting of the proposed reservation is accepted, the proposed reservation is rejected (NACK packet, see col. 18, lines 20-37) with an alternative reservation proposal and the proposed reservation is rejected without an alternative proposal.

Regarding **claim 7**, Kondylis further discloses the method of claim 1, further comprising including in the beacon frame of the first device a starting time of the

reservation relative to a reference point selected from the group consisting of the TBTT of the first device, the BPST of the beacon period in which the first device is transmitting the beacon frame, the beginning of the superframe, a time period of the superframe, and a time slot of the superframe (node X transmitting in a reservation slot of a frame a reservation request, the reservation request indicating data slot in the frame to reserved by the node X for transmission of data, see col. 17, lines 29-33 and lines 45-53).

Regarding **claim 9**, Kondylis further discloses the method of claim 1, further comprising: maintaining by each device of said plurality a table of all planned reservations received or sent by the device (see col. 18, lines 39-46).

Regarding **claim 11** as applied to claim 1, Kondylis further discloses defining said superframe (frame 900, see fig. 9, col. 16, lines 60-63) as comprising a plurality of medium access time slots (data slots 908, see fig. 9, col. 16, lines 62-66); and defining a reservation as a starting time slot of said plurality of medium access time slots and duration as a number of medium access time slots (node X transmitting in a reservation slot of a frame a reservation request, the reservation request indicating data slot in the frame to reserved by the node X for transmission of data, indicating that the reservation request indicates the duration of a data slot and the data slot from which the node X starts the transmission, see col. 17, lines 29-33 and lines 45-53).

Regarding **claim 12** as applied to claim 1, Kondylis further discloses: defining said superframe as comprising a plurality of time units (frame 900 comprising signaling subframe 902 and data subframe 904, see fig. 9, col. 16, lines 62-66); and defining a reservation as a starting time in time units and duration as a number of time units

(inherent, since node X transmits a reservation request, the reservation request indicating data slot in the frame to reserved by the node X for transmission of data, indicating that the reservation request indicates the duration period of a data slot and the data slot period from which the node X starts the transmission, see col. 17, lines 29-33 and lines 45-53).

Regarding **claim 14** as applied to claim 1, Kondylis further discloses the method of claim 1, further comprising: defining said superframe as comprising a plurality of medium access time slots (data slots 908, see fig. 9, col. 16, lines 62-66); and defining a reservation as at least one element selected from the group consisting of a reservation period (node X transmits a reservation request, the reservation request indicating data slot in the frame to reserved by the node X for transmission of data, indicating that the reservation request indicates the duration period of a data slot and the data slot period from which the node X starts the transmission, see col. 17, lines 29-33 and lines 45-53), a reservation offset, a reservation period offset, a reservation duration, a bitmap of at least one medium access time slot and a type of reservation (see fig. 5, col. 7, lines 58-62, col. 8, lines 1-12).

Regarding **claim 15** as applied to claim 1, Kondylis further discloses the method of claim 1, further comprising defining a reservation as one element selected from the group consisting of: a plurality of reservations per superframe and valid for a single superframe, a plurality of reservations per superframe and valid for a plurality of superframes, single reservation per superframe and valid for a single superframe (node X transmitting in a reservation slot of a frame a reservation request, the reservation

request indicating data slot in the frame to be reserved for the node X for transmission data in the data slots of a frame, see col. 17, lines 29-33 and lines 45-53), and single reservation per superframe and valid for a plurality of superframes.

Regarding **claim 19** as applied to claim 1, Kondylis further discloses the method of claim 1, further comprising including availability information in a beacon frame of a device (node X transmitting in a reservation slot of a frame a reservation request, the reservation request indicating data slot in the frame to be reserved for the node X for transmission data in the data slots of a frame, see col. 17, lines 29-33 and lines 45-53).

Regarding **claim 27** as applied to claim 1, Kondylis further discloses wherein the transmitting includes in the beacon frame information of a reservation selected from the group consisting of a starting point and duration, and a bitmap; and the including is optional (node X transmitting in a reservation slot of a frame a reservation request, the reservation request indicating data slot in the frame to be reserved for the node X for transmission data in the data slots of a frame, see col. 17, lines 29-33 and lines 45-53) **(it is noted that the limitation of claim 27 is optional, and therefore the examiner only addresses the transmitting as disclosed in claim 1).**

Regarding **claim 28** as applied to claim 1, Kondylis further discloses respecting the reservation by all devices receiving a beacon frame that includes a reservation (all nodes update their slot classification tables to reflect data slots scheduled for transmission by other nodes, see col. 18, lines 39-46).

Regarding **claim 33** as applied to claim 27, Kondylis further discloses the receiver device of a reservation performing: in case of a Soft Reservation, starting an

own transmission if the sender device does not use the reserved time; in case of a Hard Reservation, not accessing the medium if the sender device of the planned transmission does not use the reserved time; and in case of a Beacon Period Reservation, reserving the time for beacon transmission only (node X transmitting in a reservation slot of a frame a reservation request, the reservation request indicating data slot in the frame to be reserved for the node X for transmission data in the data slots of a frame, see col. 17, lines 29-33 and lines 45-53) **(it is noted that the limitation of claim 33 depends on claim 27 which is optional, and therefore the examiner only addressed the transmitting as disclosed in claim 1).**

(10) Response to Argument

Regarding claim 1, the appellants asserts that Kondylis's teaching of "signaling subframe" is distinct from a beacon frame. Specifically the appellants assert that there is no indication of a beacon in Kondylis's subframe. The examiner respectfully disagrees. The claim recites a "beacon frame" that includes a reservation for a planned transmission by a sender device during the subframe. Therefore, the claimed "beacon frame" is part of a frame transmitted in the superframe that includes the reservation for planned transmission by the sender during the superframe. Kondylis's teaching of a node X transmitting, in a reservation slot of a frame, a reservation request, wherein the reservation request indicates a data slot in the frame to be reserved for the node X for transmission of data in the frame (see fig. 9, col. 17, lines 29-33 and lines 45-53) is equivalent to the applicants "beacon frame" because the reservation request transmitted by node X occurs in timeslots at the start of the frame (signaling subframe, see fig. 9),

and the reservation request also includes the planned data slot in the frame to be reserved for transmission by the node X (see fig. 9, col. 17, lines 29-33 and lines 45-53, col. 17, lines 46-55, col. 18, lines 38-46). The signaling subframe as disclosed in Kondylis performs the exact same function as the appellants "beacon frame", which is to indicate in the other nodes in the network of a planned transmission in a particular data slot of the superframe (col. 7, lines 46-55). Therefore, the examiner maintains that reservation request is equivalent to the applicants' limitation of a "beacon frame" as recited in claim 1.

The appellants further assert that it is the data subframe, but not the signaling subframe of Kondylis that receives beacon information, and hence signaling subframe is not equivalent to a beacon frame. The examiner respectfully disagrees with the appellant's analysis of Kondylis. Kondylis "signaling subframe" and "receive beacon" are not the same. The examiner (in the office action) never indicates that the "receive beacon" reads on the appellants "beacon frame" as recited in claim 1 because the receive beacon disclosed in Kondylis and the claimed "beacon frame" perform different functions. The receive beacon in Kondylis is part of the data slot (314, see fig. 3) in the data subframe part of the superframe (see fig. 3, col. 7, 55-57). The receive beacon is used by the transmitting node to determine that its identity is in the beacon of the data slot before transmitting data in the data slot, in order to avoid collision with other transmitting nodes (see col. 10, lines 30-46). Therefore the receive beacon in the data slot is clearly different from the "signaling subframe" and is not equivalent to the "beacon frames" as recited in claim 1. In applying the broadest reasonable

interpretation, examiner asserts that, the claim is directed to a "beacon frame" that includes a reservation for a planned transmission by a sender during the superframe. The signaling subframe disclosed in Kondylis (see col. 17, lines 29-33 and lines 45-53) is a reservation for a planned transmission by the transmitting node X in the data slots of the superframe (node X transmitting in a reservation slot of a frame a reservation request, the reservation request indicating data slot in the frame to be reserved for the node X for transmission data in the data slots of a frame, see col. 17, lines 29-33 and lines 45-53). Therefore the examiner maintains that the signaling subframe comprising reservation slots clearly reads on the applicant's limitation of a "beacon frame". Claim 1 is therefore anticipated by Kondylis and the 35 U.S.C. § 102(e) rejection is proper.

Regarding arguments with respect to the rejection of claims 3-5, 7, 9, 11, 12, 14, 15, 19, 27, 28, and 33 under 35 U.S.C. § 102(e), the examiner refers the appellants to the response to arguments above with respect to claim 1. The examiner therefore maintains that the rejection of claims 3-5, 7, 9, 11, 12, 14, 15, 19, 27, 28, and 33 under 35 U.S.C. § 102(e) is proper.

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

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